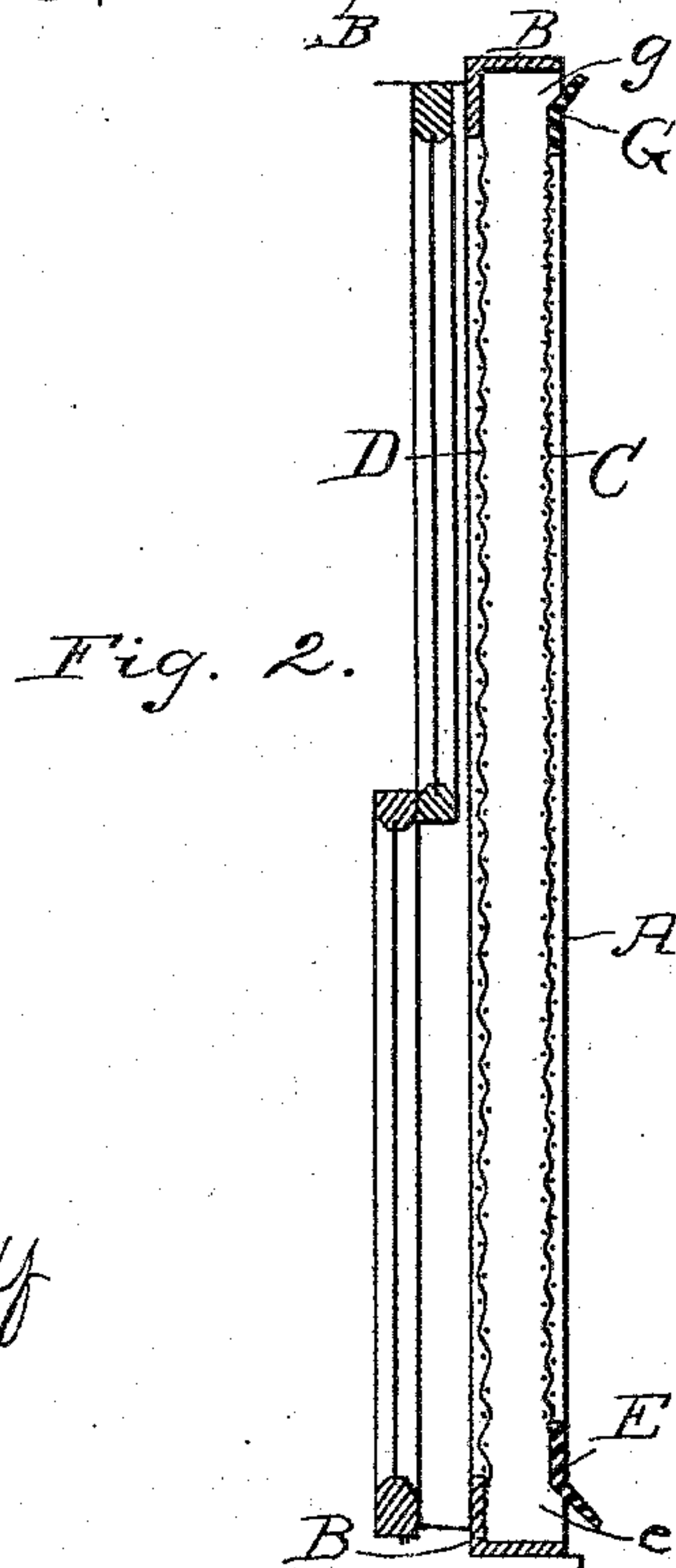
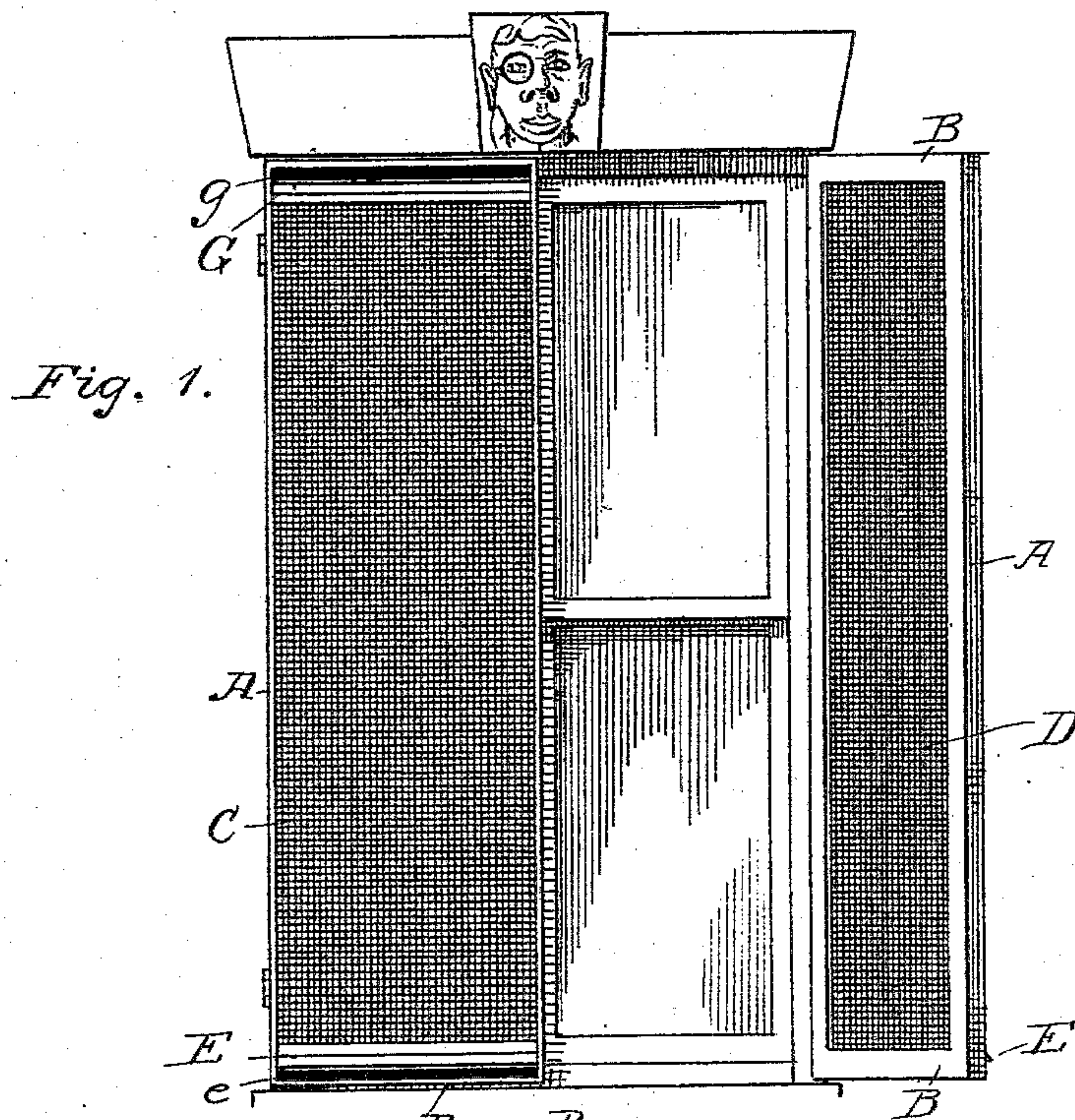


(No Model.)

J. T. COWLES.
FIRE PROOF SHUTTER.

No. 288,212.

Patented Nov. 13, 1883.



WITNESSES:

S. I. Schoff
John O. Poon

John T. Cowles,
INVENTOR

BY *James H. Coyne*
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN T. COWLES, OF CHICAGO, ILLINOIS.

FIRE-PROOF SHUTTER.

SPECIFICATION forming part of Letters Patent No. 288,212, dated November 13, 1883.

Application filed July 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. COWLES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Proof Shutters; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to furnish a new and improved fire-proof shutter, which will effectually prevent the ingress or egress of the products of combustion or heat generated thereby, and at the same time permit of a perfect ventilation through the same both laterally and vertically.

In the drawings, Figure 1 shows the application of my shutters to a window. Fig. 2 is a vertical longitudinal section of the same.

A A represent the side, and B B the top and bottom pieces, of angle-iron, composing the rectangular frame of my shutter. The rear inner edges of this angle-iron frame are connected, and the area described by them is wholly covered by a wire screen, D, and the front edges of the same are connected to within a short distance of the top and bottom pieces, B, by a screen, C. The upper and lower edges of the screen C are riveted or otherwise secured to the upper and lower cross-pieces, G and E. The cross-piece G is placed parallel to and preferably within an inch of the top frame, B, of my shutter, and its edges contiguous thereto are flanged obliquely outward, as shown, to just within the vertical plane of the outer edges of the angle-iron shutter-frame, leaving an opening, *g*, between the cross-piece and said frame B. The lower cross-piece, E, is separated from the lower frame, B, about two inches, and runs parallel therewith, thus leaving an opening, *e*, greater than the opening *g*. The lower edges of this cross-piece E are flanged obliquely downward and outward a greater distance from the vertical plane of the outer edges of the angle-iron frame than similar flange of the upper cross-piece, G.

The means adopted for securing the wire screens in position are immaterial, and the

cross-pieces E and G may be made to suit the fancy, or dispensed with altogether; but while I do not deem it absolutely necessary, I prefer that the outer screen, C, be of finer mesh than the inner screen, D—say one-eighth of an inch for one to one-fourth inch to the other—for reasons which will be made apparent hereinafter. The coarser mesh of the inner screen allows of a natural, not a forced, circulation of air through it. Thus when it is desired to ventilate a room no obstacle is presented by my shutter. When the temperature of the outer atmosphere is warmer than that in the building to which my shutter is applied, the shaded and protected air within the shutter, being cooler, falls, thus creating a draft vertically through the shutter from top to bottom. When the atmosphere is the reverse of that above set forth, the draft is from bottom to top of the shutter.

One of the most important features of my shutter is that it is perfectly fire-proof, not only by being constructed of fire-proof material, but by being able to prevent great heat or flames from passing through it. When a flame from the inside or outside of the building strikes against the screens of the shutter it is deflected, and its presence is hardly perceptible on the opposite side, except in so far as it may heat the wires.

Another advantage possessed by my shutter is that a fireman can with a couple of good blows with a hatchet or thrusts of a hose-nozzle make a hole in the same large enough to insert the nozzle to play upon a fire raging within a building, and himself suffer no inconvenience from the heat. Besides this advantage, it is light, economical, and durable, and well adapted in every respect for the purpose designed.

I do not wish to be confined to an angle-iron frame, as it is obvious other constructions could be adopted; nor do I wish to be considered as limiting myself to two screens, an inner and outer one, when in conjunction with a fire-proof frame, as it is obvious more could be used without departing from the spirit of my invention.

What I claim as new is—

1. A fire-proof shutter having an angle-iron frame, and having preferably two screens, arranged in the manner hereinbefore set forth.

2. In a fire-proof shutter having an iron

frame, the combination, with an inner screen covering the entire area of the contiguous inner side of the shutter, of an outer screen connected to the side frames, but having an upper and lower opening between the top and bottom frames and the parallel and contiguous edges thereof.

3. The combination of the angle-iron shutter-frame A A and B B, an inner screen, D, an outer screen, C, the cross-pieces G and E, to which said outer screen is connected at the

top and bottom, and provided with oblique outwardly-turned edges, and the openings *g* and *e*, the whole so constructed and arranged as to make a fire-proof shutter.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

JOHN T. COWLES.

Witnesses:

JAMES H. COYNE.

FRANK D. THOMASON.